**Remarks/Arguments**

Applicant thanks the Examiner for the courtesy of an interview held on August 27, 2007. Amendments and arguments agreed to in the interview are presented in this Response, thus placing the present application in condition for allowance.

Amendments to the Claims

Claims 1 and 5 have been amended to recite that the selectable marker imparts a growth advantage to vector-containing cells under selection conditions. Support for these amendments is found, for example, on page 14, lines 19-20 and page 15, lines 1-15.

Claims 1-2, 5, and 15-17 have been amended to recite that the vector is a DNA vector and that the vector fragments are DNA vector fragments. Each of these amendments finds support throughout the specification. See e.g., Example 5 on pages 31-33.

Claims 3 and 13 have been cancelled. Claim 2 has been amended to preserve proper dependency.

Applicant reserves the right to pursue any subject matter deleted as a result of these amendments in future prosecution, either in this application or in one or more continuing applications.

No new matter is introduced as a result of these amendments.

Objections under 35 U.S.C. §132(a)

Applicant thanks the Examiner for the courtesy of an interview held on August 27, 2007 and for indicating that she would consider evidence and arguments relating to the outstanding §132(a) rejection upon presentation in more detail. Applicant thus takes this opportunity to submit evidence in the form of published journal articles and to provide a more detailed explanation of arguments submitted in the Request for Examination filed June 18, 2007.

In the Office Action dated July 25, 2007, the Examiner asserts that the amendments to the specification in the paragraph spanning page 35, line 17 - page 36, line 5 constitute new matter which is not supported by the disclosure. Applicant traverses this rejection for the reasons below. Two amendments were made in the paragraph spanning pages 35-36:

"*Ribonucleotides"*

First, the word "ibanucleotides" was replaced with the word "ribonucleotides". The Examiner agrees that the word "ibanucleotides" is not a recognized term. As such, one of ordinary skill in the art would recognize that the word "ibanucleotides" was a typographical error. The paragraph spanning pages 35-36 teaches, in one embodiment, primers containing internal ribonucleotide residues that function as polymerization terminators. The word "ibanucleotides" appears in the context of a comparison of such ribonucleotide residues to other disclosed terminator residues, which the Applicant indicates "can often be synthesized more easily… than those containing ibanucleotides…" Thus, in reading this paragraph, one of ordinary skill in the art would recognize from context that the word "ibanucleotides" was a simple misspelling of the correct word "ribonucleotides".

*"2'-O-methyl"*

Second, the word "3'Omethyl" was replaced with the word "2'-O-methyl". Applicant submits that this was an obvious typographical error since primers containing internal 3'Omethyl residues cannot exist. The entire paragraph spanning pages 35-36 teaches embodiments comprising internal terminator residues. Indeed, this paragraph is contained within Example 7, which "utilizes primers containing internal ribonucleotide residues" (page 35, lines 18-19). As those of ordinary skill in the art are aware, nucleotide residues are joined together via 5'-3' phosphodiester linkages. A residue with a 3'Omethyl moiety cannot be covalently linked to the 5' phosphate group of an adjacent residue. As such, a residue containing a 3'Omethyl residue cannot be an internal residue. Therefore, one of ordinary skill in the art would immediately recognize, both from the context of the paragraph spanning pages 35-36 and from the physical impossibility of a primer containing an internal 3'Omethyl residue, that the word "3'Omethyl" must be a typographical error.

Those of ordinary skill in the art are aware that 2'-O-methyl residues are common reagents (see for example, Inoue et al. (1987) and Sprout et al. (1989), cited on PTO form SB/08 enclosed herewith) that are used in traditional molecular biology applications, including, for example, linear amplification (see e.g., Stump et al. (1999), also cited on PTO form SB/08 enclosed herewith). Moreover, the specification teaches that primers containing internal residues

"can often be synthesized more easily (e.g., due to higher coupling efficiencies) than those containing inbanucleotides [sic], and will generally be more stable…" As those of ordinary skill in the art are aware, ease of synthesis and stability are known characteristics of primers containing 2'-O-methyl residues.

For example, Sproat et al. disclose that that coupling efficiencies "greater than 99% were achieved" when synthesizing oligoribonucleotides containing 2'-O-methyl residues (page 3375, bottom paragraph), and that "2'-O-methyloligoribonucleotides are completely resistant to degradation by either RNA or DNA specific nucleases" (abstract). Similarly, Inoue et al. disclose that oligoribonucleotides containing 2'-O-methyl residues are easier to synthesize than oligoribonucleotides containing only ribonucleotide resides (page 6132, second paragraph) and that oligoribonucleotides containing 2'-O-methyl residues are more stable, resisting alkaline treatment and RNAse digestion to a greater extent than oligoribonucleotides containing only ribonucleotide resides (page 6132, second paragraph).

In short, both Inoue et al. and Sproat et al. demonstrate that the properties of the modified residues disclosed in the present application, ease of synthesis and stability, are characteristic of the commonly used 2'-O-methyl residues. Thus, one of ordinary skill in the art would immediately recognize that the typographical error "3'Omethyl" was in fact intended to be "2'-O-methyl".

Furthermore, even if there were any doubt as to which position was intended, a moment of consideration would have made clear that 2'-O-methyl residues must have been intended since no position on the ribose ring other than the 2' position is a reasonable position at which the O-methyl group could be present. As discussed above, since the specification makes clear that the modified residue must be present in an internal residue, the O-methyl moiety cannot be present at the 3' position. For the same reason, the O-methyl moiety cannot be present at the 5' position. Additionally, the ribonucleotide base is covalently linked to the 1' position; thus the O-methyl moiety cannot be present at the 1' position. The only other possible position is thus the 4' position. However, residues containing 4'-O-methyl residues are not standard reagents for molecular biology techniques. Thus, one of ordinary skill in the art would not understand or, in fact, even consider that the typographical error "3'Omethyl" referred to 4'-O-methyl residues,

particularly in light of the fact that 2'-O-methyl resides are both easier to synthesize and exhibit greater stability, the exact properties described in the specification.

In light of the discussion that took place in the interview held August 27, 2007, along with the evidence and arguments provided above, Applicant respectfully requests that this rejection be withdrawn.

Rejections under 35 U.S.C. §102

Claims 1, 2, 4, 5, 12, and 14-21 have been rejected under 35 U.S.C. §102(e) as being anticipated by Harney et al., US Patent No. 6,495,318 ("Harney"). The Examiner asserts that recitation of a "vector selection element" as a claimed species of second vector elements would be reasonably interpreted to include elements such as restriction sites, since one could select for or against its presence. Applicant disagrees that one of ordinary skill in the art, in reading the previously pending claims in light of the specification, would interpret the recited selectable marker to include restriction sites.

Nevertheless, as agreed in the interview held on August 27, 2007, claims 1 and 5 have been amended to recite that the selectable marker imparts a growth advantage to vector-containing cells under selection conditions. Harney neither teaches nor suggests the presently claimed methods of preparing a vector comprising a vector element, including a vector selection element as presently recited, by admixing under linkage conditions at least one vector fragment from each of two collections of nucleic acid molecules, which vector fragments cannot alone provide a vector element function. Thus, one way in which Harney fails to teach or suggest the presently claimed methods is that he discloses assembly using only "whole" vector elements, in contrast to the presently pending claims which recite admixing collections of vector fragments. As such, Harney fails to teach each and every element of the presently claimed methods.

Applicant respectfully requests withdrawal of this rejection. The present amendments are made solely in order to expedite prosecution of this application and place it in condition for allowance. Applicant reserves the right to pursue any subject matter canceled as a result of the present amendments in future prosecution, either in this application or in one or more continuing applications.

Rejections under 35 U.S.C. §103

Claims 1-5 and 12-21 have been rejected under 35 U.S.C. §103 as being obvious over Harney in view of Jarrell, US Patent No. 5,498,531 ("Jarrell '531") or Jarrell, US Patent No. 5,780,272 ("Jarrell '272"). Applicant traverses this rejection for the following reasons:

As agreed to in the interview held on August 27, 2007, claims 1 and 5 have been amended to recite that the selectable marker imparts a growth advantage to vector-containing cells under selection conditions. Additionally, independent claim 1 has been amended to recite that the vector is a DNA vector and is assembled using DNA vector fragments. Dependent claims have been amended accordingly to preserve proper antecedent basis.

The disclosure of Harney, and its deficiencies in teaching each and every element of the presently pending claims, is discussed above. Jarrell '531 and Jarrell '272 have been discussed previously in the RCE submission filed June 18, 2007. Briefly, the Jarrell references describe generally useful nucleic acid manipulation techniques, including splicing-based techniques that are based on RNA elements with intronic activity. Solely to expedite prosecution towards allowance, the presently pending claims have been amended to recite that the vector is a DNA vector and that the vector fragments are DNA vector fragments. By making these amendments, Applicant does not concede that the rejections levied in the previous response are proper or that the previously pending claims are unpatentable over the cited prior art. As previously indicated, Applicant reserves the right to pursue any canceled subject matter in future prosecution, either in this application or in one or more continuing applications.

In light of the present amendments and arguments, Applicant respectfully requests withdrawal of this rejection.

In light of these Remarks and Amendments, Applicant submits that the present application is in condition for allowance. A notice to that effect is respectfully requested.

If the Examiner believes a telephone call would be useful in expediting prosecution of this application, the undersigned invites the Examiner to call him at the number below.

Please charge any fees associated with this response, or apply any credits, to our Deposit Account Number 03-1721.

Respectfully submitted,

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